

Traffic Impact Studies (TIS) & Traffic Operational Analysis (TOA)



**SIREEN MUHTASEB,
PE**



**TIS GROUP
MANAGER**



OCTOBER 25, 2022



**DEVELOPMENT
COORDINATION
SUMMIT**

Presentation Outline

PDCA

Area Wide Study Fee (AWSF)

Chapter 2, Development Coordination Manual (DCM)

11th Edition ITE Trip Generation Manual

Contributions to DelDOT Capitol Projects (CTP)

Traffic Signal Revolving Fund (TSRF)

PDCA

Traffic Impact Study (TIS) Review Times					
Review Types for TIS/TOA Option A and Option B		Option A (Business Days)		Option B (Business Days)	
		Previously	Currently	Previously	Currently
Options A or B	**TIS/TOA Scoping Meeting Request	34	21	34	21
Option A	TIS/TOA Traffic Counts	14	10		
	Preliminary TIS Report	20	15		
	Final TIS Report	60	45		
Option B	Request TIS Cost Estimate - Option B			30	10
	Perform TIS Review			60	60
Options A or B	**Draft TIS Review Letter	7	2	7	2
	Final TIS Review Letter	7	5	7	5
Total Business Days:		142	98	138	98
Time Reduction:		-44		-40	
**Review Times are based on 'Acceptance' with NO 'Revision Requests' made.					

MEMORANDUM

John Pietrobono, New Castle Review Coordinator

Annamaria, Furmato, Project Engineer

[DATE], 2022

PROJECT (Protocol Tax Parcel # **PARCEL NUMBER**)
Area Wide Study Fee and Off-site Improvements

Area Wide Study Fee (AWSF) Letter

Project development meets DeIDOT's volume warrants to pay the Area Wide Study Fee (AWSF) in lieu of conducting a Traffic Impact Study (TIS). This memorandum is to address the amount of off-site improvements that should be required of the developer in the absence of a TIS. The improvements presented below are an alternative to the developer doing a TIS. The improvements identified through DeIDOT's review of that study.

The development consists of **LAND USE**. Per the 11th edition of the Institute of Transportation Engineers' Trip Generation Manual, the proposed development would generate **###** average daily trips and **###** vehicle trips during the p.m. peak hour. The fee is set at ten dollars per daily trip. For the proposed development, the fee would be **###**.

Section 2.2.2.2 of the Development Coordination Manual allows DeIDOT to accept the AWSF in lieu of a TIS, but only if the local land use agency does not require a TIS. If the County requires a TIS for this development, DeIDOT will support that requirement and will not accept the AWSF.

3. Any Additional Comments

DCM

Changes to Chapter 2



Chapter 2 update is a replacement that provides reorganization and clarification to the reader by identifying responsibilities of DeIDOT and obligations of the Developer and/or hired Engineer submitting the Traffic Analysis.



From the Chapter title, the word ‘Improvements’ was removed to better identify the Chapter’s intent to the reader.



Section examples were removed to allow DeIDOT to provide guidance in real-time as methods for collecting analysis data are improved for accuracy and become more efficient for reporting.



ITE Trip Generation Manual 11th Edition Updates

Residential land uses:

Single-Family Attached Housing (LUC 215)
multifamily housing Low-Rise (LUC 220; 3 or less floors), Mid-Rise (LUC 221; 4-10 floors)
Senior Adult Housing-Detached & Attached are combined into one (LUC 251), Senior Adult
Housing-Multifamily (LUC 252)
The proximity to a rail transit station multifamily housing (LUC 220, 221 & 222)

Institutional land uses:

The independent variable KSF was removed from Elementary School (LUC 520), Middle
School/Junior High School (LUC 522), High School (LUC 525)

Office land uses:

Medical - Dental Office Building (LUC 720) contains two subcategories, standalone or
located within or adjacent to a hospital campus

Retail land uses:

Shopping Center >150k SF (LUC 820), Shopping Center 40k - 150k SF (LUC 821), Strip
Retail Plaza <40k SF (LUC 822)

Service land uses:

Convenience Store/Gas Station (LUC 945)



Contributions to DelDOT Capital Transportation Projects (CTP)

1. Contributions shall be assessed only for projects listed in the currently adopted Capital Transportation Program (CTP).
2. Within the currently adopted CTP, contributions shall be assessed only for projects that add highway capacity; meaning through lanes or turning lanes from one road to another. Turning lanes at commercial entrances may be included but do not add capacity. Maintenance and rehabilitation projects, most bridge projects, and many Highway Safety Improvement Program (HSIP) projects are excluded. Signals not associated with larger Capital Projects are addressed separately.
3. Contributions shall be based on Construction costs only. These may be costs listed in the CTP or more refined estimates if they are available. Contributions shall be assessed only when a Construction costs estimate is included in the CTP.
4. Contributions shall be based on 20 percent of the DelDOT Capital Project total Construction costs only. The 20 percent factor applies regardless of the actual State share on the specific project.
5. The contribution shall be calculated by multiplying the project cost by a fraction, of which the numerator is the amount of traffic to and from the development passing through the project and the denominator is the total traffic passing through the project in the design year of the project.

(20% Total Construction Cost) x (development traffic passing through the project / total design year traffic passing through the project)

6. The fraction described in Item 5 above will normally be calculated for the weekday p.m. peak hour of the frontage road(s) from which the development will take access.
7. If a development's timeline extends beyond DelDOT's award of a project, contributions all stop at the award of the project.

Traffic Signal Revolving Fund (TSRF) Administration (DCM 2.5.4.3, 2.5.4.4)

DCM 2.5.4.3.B: The Development Coordination Section shall be responsible for:

- ✓ Informing developers of their option to pay into the TSRF
- ✓ Determining the amount of their contribution in accordance with Section 2.5.4.5
- ✓ Ensuring that the funds are received prior to issuing entrance approval



Improvements Not Qualifying for TSRF (DCM 2.5.4.2)

- If a development directly impacts existing signal equipment, the developer must relocate DelDOT's equipment or pay immediately for the repair, relocation or upgrade of the equipment, or some combination thereof, at DelDOT's discretion.
- NO turning lanes, realignments, or other geometric improvements.
- If Physical improvements (bullet above) are required as per the approved construction plans and those improvements require traffic signal modifications or installation, the developer must enter into a Traffic Signal Agreement.



STOP
SLOW
GO!

Cost of Signal

(DCM 2.5.4.5.A through D)

NICOLE MAJESKI
SECRETARY

MEMORANDUM

To: Todd Sammons, P.E., Assistant Director of Planning
From: Peter Haag, P.E., PTOE, Chief of Traffic Engineering 
Date: August 10, 2021
Topic: Traffic Signal Cost Adjustment

Section 2.5.4.5 of the 2016 Development Coordination Manual states:

- A. The current construction cost of installing a new signal, for purposes of contribution to the TSRF, is estimated to be \$200,000. This estimated cost will be updated periodically in the future, as costs change. An update of this cost will be documented via a memorandum from the Chief Traffic Engineer to the Assistant Director of Planning, Development Coordination, and will be posted on DelDOT's web site. If a design for a signal has proceeded such that the actual cost is available, this actual cost will be substituted for the estimated cost.
- B. The cost of maintain a signal is highly variable. For purposes of contribution to the TSRF, the amount is five percent of the amount contributed. This five percent represents an anticipated expense of \$1,000 per year for ten years for a new signal costing \$200,000. The Department will assume maintenance costs that exceed the five percent. Once collected, these funds will be transferred to the signal maintenance operating budget. The Department will not separately track these maintenance funds, and may use these funds for any signal maintenance purpose, statewide.

Accordingly, DelDOT is adjusting the standard signal cost from \$275,000 to \$300,000 and the maintenance cost from \$1,375 per year for ten years to \$1,500 per year for ten years. In addition, DelDOT is adjusting the signal cost for locations on multi-lane divided corridors from \$300,000 to \$350,000 and the maintenance cost from \$1,500 per year for ten years to \$1,750 per year for ten years.

Use the generic costs provided by memo from Chief Traffic Engineer to Assistant Director of Development Coordination, currently:

Most locations \$300,000 plus 5% for maintenance = **\$315,000**

Multi-Lane Divided Highways \$350,000 plus 5% for maintenance = **\$367,500**



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Any Questions?

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